

AMENDMENTS TO THE CLAIMS

1-9. (Cancelled)

10. (Currently Amended) An apparatus for receiving a quasi-complementary turbo code (QCTC) and decoding the QCTC, comprising:

a combiner for sequence ~~sequene~~ combining the received symbols;

a channel de-interleaver for separating the combined symbols into an information symbol stream and parity symbol streams, ~~matching the separated respective parity symbol streams with at least one other parity symbol streams,~~ demultiplexing the matched parity symbol streams into at least one parity symbol streams according to a given code rate, and independently de-interleaving and outputting the information symbol stream and the demultiplexed parity symbol streams; and

a ~~quasi-complementary~~ turbo code decoder for multiplexing the independently interleaved parity symbol streams and the information symbol stream, ~~after~~ decoding the multiplexed streams ~~that~~ according to a predetermined decode rate, and outputting the information symbol stream.

11. (Original) The apparatus as claimed in claim 10, wherein the channel deinterleaver comprises:

~~a symbol separator for separating and outputting the information symbol stream and the parity symbol streams from the combined symbols;~~

~~—— a demultiplexer for demultiplexing the parity symbol streams mating with the other parity symbol stream and separating the respective parity symbol streams; and~~

~~—— a de-interleaver for independently de-interleaving the demultiplexed parity symbol streams and the respective information symbol stream.~~

a separator for separating an output of the combiner into an information symbol stream and at least one parity symbol stream;

at least one demultiplexer for demultiplexing the parity symbol streams output from the separator into parity symbol stream pairs; and

at least one deinterleaver for independently deinterleaving outputs of the demultiplexers and the information symbol stream.

12. (Currently Amended) The apparatus as claimed in claim 10, wherein the ~~quasi-complementary~~ turbo code decoder comprises:

a multiplexer for multiplexing and outputting the independently de-interleaved parity symbol streams and the information symbol stream; and

a turbo decoder for outputting the information symbol stream, after decoding output symbols of the multiplexer according to a predetermined decode rate.

13. (Currently Amended) The apparatus as claimed in claim 10, wherein the combiner comprises:

a circular buffer memory for storing the received symbols; and

a sequence/symbol combiner for selecting and outputting a predetermined number of symbols ~~of symbols~~ stored in the circular buffer memory, according to a code rate from the starting position.

14. (Original) The apparatus as claimed in claim 13, wherein the starting position of the circular buffer memory is the symbol next to the last symbol of the finally transmitted symbols whenever each symbol stream is received.

15. (Currently Amended) The apparatus as claimed in claim 13, wherein the sequence/symbol combiner ~~is combined~~ combines the received symbols with the previous transmitted symbol and outputs a combined symbol to the channel de-interleaver if there is a retransmission symbol of the received symbol.

16. (Original) The apparatus as claimed in claim 15, wherein the combination is a soft combination.

17. (Original) The apparatus as claimed in claim 15, wherein the combination is a hard

combination.

18. (Currently Amended) A method for receiving quasi-complementary turbo code (QCTC) and decoding the QCTC, comprising the steps of:

- (a) sequence combining the received symbols;
- (b) separating the combined symbols into an information symbol stream and parity symbol streams, ~~matching the separated respective parity symbol streams with at least one other parity symbol streams~~, demultiplexing the ~~matched~~ parity symbol streams into at least one parity symbol stream ~~streams~~ according to a given code rate, and independently de-interleaving and outputting the information symbol stream and the demultiplexed parity symbol streams; and
- (c) multiplexing the independently interleaved parity symbol streams and the information symbol stream, ~~after decoding the multiplexed streams that~~ according to a predetermined decode rate, and outputting the information symbol stream.

19. (Currently Amended) The method as claimed in claim 18, wherein the step (b) comprises the steps of:

- (a) separating and outputting the information symbol stream and the parity symbol streams from the combined symbols;
- (b) demultiplexing the parity symbol streams ~~mating with the other parity symbol stream~~ and separating the respective parity symbol streams; and
- (c) independently de-interleaving the demultiplexed parity symbol streams and the respective information symbol stream.

20. (Currently Amended) The method as claimed in claim 18, wherein the step (c) comprises the steps of:

- (a) ~~a multiplexer for~~ multiplexing and outputting the independently de-interleaved parity symbol streams and the information symbol stream; and
- (b) ~~a turbo decoder for~~ outputting the information symbol stream, after decoding output symbols of the multiplexer according to a predetermined decode rate.

21. (Original) The method as claimed in claim 18, wherein the step (a) comprises the steps of:
circularly storing the received symbols; and
selecting and outputting a predetermined number of symbols of symbols circularly stored, according to a code rate from the starting position.

22. (Currently Amended) The method as claimed in claim 21, wherein in the step (a) the starting position of the ~~circular buffer memory~~circularly stored symbols is the symbol next to the last symbol of the finally transmitted symbols whenever each symbol stream is received.

23. (Currently Amended) The method as claimed in claim 21, wherein ~~in the step (b) the sequence/symbol combiner is combined~~ comprises combining with the previous transmitted symbol ~~and with~~ outputs to the channel de-interleaver if there is a retransmission symbol of the received symbol.

24. (Original) The method as claimed in claim 23, wherein the combination is a soft combination.

25. (Original) The method as claimed in claim 23, wherein the combination is a hard combination.

26. (Original) The method as claimed in claim 18, wherein in the step (b) the information symbols and a plurality of parity symbol streams are de-interleaved respectively, independently by PBRO (Partial Bit Reversal Order) De-interleaving method.

27-33. (Cancelled)

34. (New) The apparatus as claimed in claim 10, further comprising a depuncturer for depuncturing the received symbols according to a code rate.